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ABSTRACT

Workplace literacy is literacy training provided in the workplace, incorporating basic skills training with job-related instructional materials. Early research efforts to define the literacy requirements of jobs began with two military projects, Operational REALISTIC and Project 100,000, in the late 1960s. Subsequent studies have focused on the way people read on the job and the link between literacy and job performance. These studies have revealed that: (1) most jobs require reading and calculating; (2) on average, workers read close to two hours per day, primarily from manuals, magazines, tables/figures, and business correspondence, rather than from books; (3) 70% of the material read in the workplace is between the 9th and the 12th grade reading levels; (4) the assumption that general basic skills training easily transfers from one situation to another was not supported by the research; and (5) for workers with low literacy levels, the best results occur when basic skills training is integrated with technical training. A number of workplace literacy initiatives have been undertaken in Canada and the United States in the past few years. These include the Industrialized Tutoring Program being tested at three sites by Laubach Literacy of Canada, Ontario's Basic Skills in the Workplace program, Douglas College's (British Columbia) Basic Skills Upgrading Program at the Royal Columbian Hospital, and many examples of company and union involvement in literacy training. Such initiatives indicate that literacy, in general, is receiving greater consideration and financial resources, and that basic skills training is moving from a general to a more job-related focus. (JMC)

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WORKPLACE LITERACY: A REVIEW OF THE LITERACY.

August 1989

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FOREWARD

Workplace literacy is a recent focus of literacy initiatives in Canada. As we approach the year 2000, however, we can expect to see considerable growth in this direction, especially as it becomes more and more evident how dependent our social and economic future is on the level of skills that our workers can apply in the workplace. As educators of today's and tomorrow's workers, we must therefore concern ourselves with this shift in the practice of literacy training.

To meet this challenge, the Department of Advanced Education and Training, with the collaboration of the Ministry of Multiculturalism and Citizenship launched a number of literacy projects in the spring of 1989. Three of these were specifically designed to address the area of workplace literacy. One of these called for the present review of the research in the field.

Planning Services gratefully acknowledges the principal investigator, Martha Patterson of Facts and Figures Research services, for her contribution in the preparation of this report. The findings of her research should provide an informed basis for decisions about future directions in program development and delivery of literacy training in the workplace.

Janet Higgins
Planning Services

EXECUTIVE SUMMARY

This paper is part of an initiative by the New Brunswick Department of Advanced Education and Training in the area of literacy. The literacy difficulties experienced by workers is one aspect of literacy receiving more attention.

The purpose of this paper is to summarize the findings of a literature review of research on workplace literacy. The concept is defined and major research findings are highlighted. Initiatives in this area in both Canada and the United States are discussed. The paper concludes with factors for consideration when promoting workplace literacy in New Brunswick. A reference list is included.

Definition

Workplace literacy is literacy training in the workplace integrating basic skills training with job-related instructional materials.

Research has been primarily in the military and in the areas of reading at work and the link between literacy and job performance.

Highlights of Research

Most jobs require reading and calculating.

On average, workers read close to two hours per day.

Workers primarily "read-to-do" while school reading focuses upon "read-to-learn", that is, fact gathering.

Most job reading is from manuals, magazines, tables & figures, business correspondence, and so forth, not books.

Seventy percent of material in the workplace is between the 9th and 12th grade (fifteen percent is above that).

The assumption that general basic skills training easily transfers from one situation to another was not supported by the research.

For workers with low literacy levels, the best results appear to occur when basic skills training is integrated with technical training.

There is also a social aspect to workplace literacy. Workers often ask questions and gather information from other workers when completing a required task.

Conclusions

Further research is needed to determine the attitudes of New Brunswick employers with respect to literacy training in their workplace.

The research has shown that adults learn best what they can directly apply. Therefore, program development ought to be based upon job task analysis. Effective programs will use job-related instructional materials and simulation as a teaching/learning strategy.

Finally, organizations that offer their expertise in setting up workplace literacy programs are the Frontier College, Laubach Literacy of Canada and the Ontario Ministry of Skills Development.

Purpose

The purpose of this paper is to summarize the findings of a literature review of research on workplace literacy. The concept is defined and major research findings are highlighted. Initiatives in this area in both Canada and the United States are discussed. The paper concludes with factors for consideration when promoting workplace literacy in New Brunswick. A reference list is included.

Background

Literacy/Illiteracy has been receiving much attention in Canada, especially since the Southam Literacy Survey Results of 1987 hit the newsstands. It has been the subject of special surveys, books, newspaper articles, conferences & workshops, and so forth. Concerned people from community organizations to government officials as well as educators, union representatives, employers and the media have sought to define and offer solutions for "the literacy problem".

With greater public awareness, one area to receive increased attention is the extent of literacy difficulties experienced by workers. In a nutshell, Workforce 2000 - The Canadian Scenario identifies the labour market trend as a slower growing labour force with fewer younger workers. Employers will not be able to pick just "the cream of the crop" to meet their requirements for skilled workers. This will result in greater reliance upon existing workers, some with deficient reading and writing skills. Here lies the challenge. For Canada to sustain (and, hopefully increase) its level of prosperity and economic growth, the country must remain a competitor in world markets. Part of this competitiveness comes from the ability of companies to employ new technology. However, this is dependent upon its employees having the skills to function effectively in this advanced work-setting. The literacy skills of workers are, therefore, of paramount concern.

Also of importance is the changing profile of the labour force. Not only will workers be older. There will also be a larger proportion of adult females and immigrants. While, overall, women are attaining higher educational levels, many have no more than a secondary education and limited occupation-specific skills. For many immigrants neither French nor English will be their mother-tongue. With greater reliance upon their contribution to the economy, their special training needs will have to be addressed.

It is predicted that the literacy requirements of jobs will continue to increase. "Brains" will replace "brawn". By the year 2000, the skills requirements of occupations are expected to average 16.7 years of education/training while the skills labour force participants possess will average 14.9 years of education/training. Sixty-six percent of people in the labour force today will still be working in the year 2000. Many companies will find it necessary to re-train their employees.

Surveys of the training activity of large companies in the United States have shown that the impetus for training/re-training is often as a result of the introduction of new technology. However, what frequently has been discovered during this process is that some workers do not possess the basic skills necessary to comprehend the new material.

Such was the case with workers of a municipal wastewater treatment plant. Once trainers recognized that the level of basic skills and technical knowledge needed to handle the new technology was far too advanced for many of the workers, revisions were made to the training program and its method of delivery. As a result, nearly 50% of workers in the modified program passed their technical class posttests. Without the introduction of the special basic skills component, only 5% were expected to pass. Furthermore, these participants had a higher retention rate than those workers with higher basic skills who were considered not to need the special program (Sticht and Mikulecky, 1984).

Definition of Workplace Literacy

There is no one universally agreed-to definition of literacy in the literature. This point is made in several detailed discussions (Baar-Kessler, 1984; Harmon, 1986; Mikulecky, 1986; Taber, 1987; Canadian Business Task on Literacy, 1988, to name a few). David Harmon points out, however, there is widespread agreement on the inadequacy of the conventional definition, that literacy means the ability to read and write. Thus researchers have introduced the concept of "functional literacy".

Defining functional literacy has been as challenging a task. Diehl (1980) terms it as "the ability to read and write well enough to function in contemporary society". Researchers agree that functional literacy is not a static concept but one that adapts as the situation changes. In some documents the term functional literacy was used synonymously with the term workplace literacy (Lee, 1988). Others, however, express the concern that

this is too narrow a definition of functional literacy (Chang, 1986). There does seem to be agreement that workplace literacy should be defined in the context of functional literacy.

At its simplest level, workplace literacy is literacy training in a work setting. However, the research in the area of workplace literacy has made the link between literacy and the job or occupation. Mikulecky discusses the literacy demands in the workplace, i.e., the literacy skills required to do the job. Baar-Kessler defines "job-related literacy as an individual's ability to accomplish a specific task encountered on the job". Furthermore, Sticht (1975) defined functional literacy in terms of job-related literacy demands as "the possession of those literacy skills needed to successfully perform some reading task imposed by an external agent between the reader and a goal the reader wishes to obtain". The connection between job-related literacy and functional literacy is further supported by Jacob & Crandall (1979). Readers should also be aware of the use of a similar expression "occupational literacy" - the ability to competently read required, work-related material (Chang, 1986; Rush, 1986).

The importance of the link between literacy skills and the job is particularly important when decisions are being made concerning content of training programs. As the major findings of research on workplace literacy will indicate, the most successful literacy programs integrate basic skills training with job-related instructional materials. Military personnel retained 80% of end-of-course gain in job literacy training but only 40% of their end-of-course gain in general reading (Sticht 1981).

Thus, the content as well as the context of literacy training must be considered. A more comprehensive definition of workplace literacy, then, would be literacy training in the workplace integrating basic skills training with job-related instructional materials.

What constitutes "basic skills" also requires some explanation. By many researchers, basic skills are considered to be those skills which should have been learned in school.

However, research has broadened the definition. The National Center for Research in Vocational Education identified basic skills for the American labour force as reading, writing, listening, speaking and mathematics at the level necessary to perform or advance on the job. Many companies would also have included reasoning, decision making and problem-solving (Hull and Sechler, 1987). A two-year research project of the American Society for Training & Development and the United States Department of Labor came up with a much more extensive list including such skills as goal setting/motivation, teamwork and interpersonal skills.

Generally speaking, there is agreement that many of the skills considered

basic today by employers would not have been considered as such a few years ago. As many researchers predict that literacy demands in the workplace will continue to grow, there is good reason to believe that employers' perceptions of basic skills will also change.

Thus the changing work environment and workers' ability to cope with it will be the driving force behind the need for literacy training in the workplace. The specific needs will vary occupation to occupation and workplace to workplace.

The discussion to follow on major findings in the research will provide some indication of the literacy skills required in the world of work and the relationship to job performance.

Summary of Major Research Findings

Highlights

Most jobs require reading and calculating.

On average, workers read close to two hours per day. Workers primarily "read-to-do" while school reading focuses upon "read-to-learn", that is, fact gathering.

Most job reading is from manuals, magazines, tables & figures, business correspondence, and so forth, not books.

Seventy percent of material in the workplace is between the 9th and 12th grade. Fifteen percent is above that.

The assumption that general basic skills training easily transfers from one situation to another was not supported by the research.

For workers with low literacy levels, the best results appear to occur when basic skills training is integrated with technical training.

There is also a social aspect to workplace literacy. Workers often ask questions and gather information from other workers when completing a required task.

These highlights have been taken from the research activities summarized below. Research has been primarily in the military and in the areas of reading at work and the link between literacy and job performance.

Military

Early research efforts in defining literacy requirements ofjobs began in the military in the late 1960's. The bulk of the research was undertaken by a research team headed by Thomas Sticht sponsored by Human Resources Research Organization. Studies of the American civilian population followed in the late 1970's and have carried over into the '80's.

Two of the original projects were Operation REALISTIC and Project 100,000. Operation REALISTIC determined the reading, listening and arithmetic skills used in several mechanical, clerical and service occupations in the military. From this analysis suggestions were made for reducing discrepancies between personnel literacy skill levels and literacy skill levels required by the job. Data collection included comparing performance of job incumbents on the three skills to the job performance rated by supervisors and indexed by job knowledge and job sample tests. Job-related reading tasks were identified for each of the occupations. Findings indicated that the higher the reading ability of an enlistee, the greater his use of reading materials. Also, the greater the gap between reading ability and difficulty of printed material, the less tendency to use materials (Sticht & Kern, 1971).

Project 100,000 was an initiative whereby the military admitted men who had disqualified for service by previous standards because of low mental aptitude or deficient health standards. Generally speaking, these men had low literacy skills. The researchers identified the demands for reading, arithmetic and listening skills of four occupations: general vehicle repairman, unit & organization supply specialist, armor crewman and cook. It was concluded that "greater use of job reading materials and better job performance might be stimulated by either upgrading reading skills or reducing the difficulty level of materials using properly designed manuals" (Sticht et al, 1971).

This research also discovered that the job materials tested were at least at a 12th grade level while the job performers had reading grade levels of 7.5 - 9.5. Furthermore, to be a competent job performer there were specific job-reading tasks which a person had to be able to perform (Fox & Sticht, 1974). Early attempts to alleviate these discrepancies between actual skills and required skills involved general basic skills training. The assumption was that basic skills easily transferred from one situation to another. With intensive training enlistees would increase one to two grade levels. However, as was later discovered, when these men were tested 8 weeks later, 95% has

regressed to their former reading level prior to training. This caused the Army to question the value of general basic skills training. As cited earlier, enlistees' retention rates were much higher in job literacy training than general reading. Thus researchers concluded that adult learners require instruction that they can directly apply. This conclusion is consistent with the principles of adult learning. The assumption that general basic skills easily transfer to work situations was not supported. By the early eighties the trend in the military was towards functional or job-oriented basic skills training as opposed to general basic skills (Sticht, 1982).

The military went on to develop a number of job training programs for enlistees incorporating basic skills training. Three of the most successful were: Functional Literacy Program (FLIT), Experimental Functional Skills Programs in Reading and Basic Skills Education Program. Common program features with respect to objectives, content and approach contributed to their success.

1. Common goal of improved job performance and promotion potential for participants.

2. Job task analysis was undertaken for each occupation to determine which reading skills were embedded in job tasks and how they applied to job performance.

3. Actual job reading materials were used.

4. Reading skills were taught to enlistees in the way they would be used on the job (Philippi, 1988).

Reading on the Job

There has also been extensive research into the way people read on the job and the purpose of their reading. Rush, Moe and Storlie (1986) examined the literacy requirements of 10 occupations in both workplace and training settings. The specific occupations were: account clerk, auto mechanic, draftsman, electrician, heating/air conditioning mechanic, industrial maintenance mechanic, licensed practical nurse, machine tool operator, secretary and welder. Their research concluded that:

For a major portion of each workday, reading is required in skilled and semi-skilled occupations.

Most workers are required to comprehend and use both print and graphic formats.

Workers and students must be able to understand reading materials ranging from complex technical manuals to brief handwritten notes.

Most workers are able to manage the literacy requirements of their occupation because of repetition and familiarity with concepts, materials and tasks.

When it comes to speaking, listening, and writing on the job, clarity of communication is more important than formal grammar and usage.

John Guthrie (1983) compared occupational reading to traditional reading. As illustrated below, they were found to be very different. His research has shown that most reading is done in relation to an individual's job.

Occupational Reading	*Traditional Reading*
The same text may be read for different purposes by different employees.	*People read for information or entertainment.*
Most job reading is from manuals, magazines, tables & figures, correspondence, and so forth, not books.	*They read books or other pieces of extended discourse.*
Most job-related reading is for five minutes or less.	*They read for relatively long periods of time.*
Employees read for specific details and facts.	*They read quickly to get the gist of the idea.*
Employees are not aware of the time they spend reading - much of it they consider "not really reading".	
Reading on the job is not an option activity.	

Research by Diehl and Mikulecky (1980) sought to determine the literacy demands of several occupations and how people went about meeting these requirements. They conducted a Job Literacy Survey of 107 people from 100 occupations at 26 workplaces. Close to 99% of subjects reported doing some reading at work on a daily basis. Survey participants averaged 113 minutes of reading per day. Seventy percent of material in the workplace was rated between the 9th and 12th grade (fifteen percent was above that).

One factor assisting workers in their tasks was their "information-rich" environment. For example, workers could request information from their co-workers or watch how others performed a task, rather than refer to reading materials.

Later research by Mikulecky (1982) compared the reading requirements of high school students and technical school students to the reading requirements of workers. His findings indicated that students read less often in school than workers on the job. Furthermore, they dealt with easier material and comprehended at less depth. Plus the purpose of their reading was different. Students read to gather factual information which they memorized to give back to the teacher at a later time. Workers read primarily to accomplish tasks and make assessments.

Relationship Between Literacy and Job Performance

While one of the reasons often cited for undertaking literacy training in the workplace has been improved job performance, research has not demonstrated that there is a direct relationship between job performance and general literacy skills. The relationship between the two was the purpose of two research projects: job performance and literacy abilities among nurses (Mikulecky and Winchester, 1983) and among electronic technicians (Mikulecky and Ehlinger, 1985).

It is interesting to note that researchers found only a low level relationship between simple literal level reading ability and job performance. However, the difference seems to be in how they use their literacy skills. A much higher relationship was discovered between job performance and the ability to apply reading, writing and computation skills. Top job performers constantly asked questions about what they read.

The Center for Public Resources (Henry and Raymond, 1982) examined this relationship from another perspective. Their survey queried businesses about costly one-time mistakes due to low basic skills. Many examples were provided, including instances where workers had been killed or injured because of inability to read warning signs or properly install equipment.

Respondents indicated low literacy levels regularly contributed to losses in production, quality and general corporate performance. In Canada the direct cost of illiteracy to business is estimated to be at least $4 billion annually due to industrial accidents, lost productivity and direct training.

While literacy requirements vary from occupation to occupation, most jobs require literacy skills. On average, workers spent close to two hours per day reading. The pool of low-skilled jobs not requiring literacy skills will represent an increasingly smaller share of all work. The research has shown that the most successful literacy programs integrate basic skills training with job-related materials. It has also demonstrated that the majority of reading done by people is related to their occupation. And, that this reading is very different from traditional reading. While the research has not demonstrated a strong relationship between job performance and literacy skills, countless examples can be cited where low literacy skills have resulted in costly losses for business.

Initiatives

Canada

Many literacy initiatives have occurred since the Southam Literacy Survey. The Canadian Business Task Force on Literacy released its findings of the costs of illiteracy in Canada - an estimated $4 billion or more as direct costs to business due to industrial accidents, lost productivity and direct training. The costs to society are billed at $10 billion plus. The federal Government announced the creation of its National Literacy Secretariat. In March of 1989, the Secretariat cost-shared several literacy projects with the provincial governments. Literacy organizations across Canada are preparing for the International Year of Literacy 1990 as decreed by the United Nations. This October, Statistics Canada, in conjunction with the Secretary of State, will conduct a survey to determine the literacy levels of Canadians.

While recent years have seen an increased amount of activity in Canada in the area of adult literacy, involvement in the area of workplace literacy is relatively new.

Frontier College has undoubtedly had the longest history of participation. Its original involvement began in 1899 with its "labourer-teacher program". While this is still a part of the college's services, the College has grown to

offer a much larger range of services. One of these is their Learning in the Workplace Program. Advisors assist companies in setting up their own literacy program at the workplace using their own unique training materials.

More recently, Laubach Literacy of Canada implemented its Industrialized Tutoring Program on a pilot project basis with $1.2 million from the Innovations Program of Canada Employment and Immigration. This is a three-year project with a completion date of January 1990. Three test sites were chosen: Cape Breton, St. Catherine's and Winnipeg. Interim reports indicate a strong level of participation in St. Catherine's, a heavily industrialized area. In Winnipeg, most participants have been small businesses. The focus in Cape Breton has been upon its larger employers. While support has been expressed by both management and unions, no program had been set up in Cape Breton as of May 1989.

Both of these organizations have offered their assistance & expertise to others interested in providing a similar service to business and industry.

Participation in workplace literacy at the provincial government level varies. Ontario has been the most involved in this area with many of the other provinces in the developmental stages. Ontario has a Basic Skills in the Workplace Program already in place. Their Ministry of Skills Development is also involved in a number of other areas including preparing a booklet on Workplace Literacy and developing the concept of organizational needs assessments. In British Columbia, Douglas College has designed the Basic Skills Upgrading Program for implementation at the Royal Columbian Hospital. Nova Scotia has received funding from Canada Employment and Immigration to develop literacy training in the workplace programs. There are also the workplace literacy projects being initiated by the New Brunswick Department of Advanced Education & Training of which this paper is a part.

Is literacy, or the lack thereof, considered a problem by employers? The Canadian Business Task Force on Literacy had indications from some company CEOs that it is not. On the other hand, there are also many examples of companies involved in literacy training. Sherbourne Manufacturing Ltd., an Ontario company producing machinery parts, is one. The introduction of new technology on its assembly line brought out in the open the low literacy levels of some of the workers. The company management agreed to the establishment of adult education courses as well as training in the new technology for interested workers.

There are also examples of union-driven involvement in literacy training for workers. The International Labourers Union has received funding from Secretary of State to conduct a needs assessment and to then set up four workplace literacy pilot projects for its members (one in each of the

Atlantic provinces).

One survey does shed some light on the limited extent of job-related training in Canada. The Adult Training Survey was a survey of individuals, not companies, conducted by Statistics Canada in February of 1986. Training was defined as formal educational activity in which participants enrolled for employment-related reasons such as improving job opportunities and skills, increasing earnings, or promoting career development. Thus, it did not have a basic skills or remedial focus. More than 8% of the population aged 17-65 participated in such programs on a part-time basis in 1985.

While employers were the leading providers of part-time training (34%), there is little indication that this training benefited workers with lower skill levels. In fact, the survey discovered that people already relatively well-educated, who were working full-time, or who were employed in a professional or technical occupation were the most likely to participate. The most probable category to record any remedial training was "upgrading/orientation". It accounted for only 2% of reported part-time training. Statistics Canada cautions that this figure is subject to considerable sampling error (Canadian Social Trends, 1988).

United States

In the United States, activity in the area of basic skills training conducted in the workplace has been in place longer, is more extensive and better documented. In 1985, approximately 25% of the 2,600 firms surveyed in the annual United States Industry Training Survey were offering programs in "basic and remedial education", up from 18% in 1984. This discussion will cite a few examples of the kinds of partnerships being formed in the United States.

Polaroid has one of the oldest in-house basic skills programs in the country, dating back to the 1960's. According to Dr. Edwin Land, the founder of Polaroid, "the function of industry is not just the making of goods; another function is the development of people". One of the features that stands Polaroid apart from other companies is that at least 50% of Polaroid's education programs are directed towards the needs of hourly employees. Their efforts are not just directed to management and professional development. Early programs focussed upon high school math and chemistry. Later General Educational Development (GED), Adult Basic Education (ABE) and English as a Second Language(ESL) programs were also provided. In the 1970's the company developed its Fundamental Skills Program designed to provide training in basic literacy and arithmetic. This program has since been expanded to include a Technology Readiness curriculum:

math & science, computers & instrumentation and skills in sustained learning. The program is available on all shifts at each of the company's major locations, usually on a combination of company and employee time.

There are many other companies such as Xerox Corp., Planter's Peanuts, Aetna Life & Casualty Co., to name a few, who are actively involved in basic skills training programs for their workers.

Unions can also be instrumental in the introduction of basic skills training programs in the workplace. In 1984, the United Auto-Workers (UAW) negotiated agreements with both General Motors and Ford to establish such programs. The adult education programs include language training and remedial training.

Corporations have also formed partnerships within their communities. One example is the Adopt-A-School program, an innovative link between private business and public education originally initiated by Mutual Life Insurance of New York. There are now more than 800 such programs nationwide.

There are many organizations offering services to combat the problem of illiteracy in the general population. One such organization is the Business Council for Effective Literacy (BCEL). It acts as a clearinghouse for information on literacy, primarily serving the business community. Their quarterly newsletter provides current information on company involvement in literacy activities in the United States. The BCEL has also produced a guide for people setting up job-related basic skills programs.

Trends

The initiatives identified in the previous section indicate that literacy, in general, is receiving greater consideration (and financial resources). With this trend of increased awareness of literacy and the realization of the changing work environment, literacy demands in the workplace are also gaining recognition. Literacy experts are directing attention to existing workers as opposed to rallying against the often-cited poor performance of the schools. Each year is seeing greater involvement by companies in the United States in basic skills training. Although less well documented, there are many indications that the same is true in Canada, especially Ontario.

The other trend of note is the shift of basic skills training from a general to a more job-related focus. In the United States military, by the early 1980's, the trend was to fund job-oriented basic skills training as opposed to general

basic skills training.

This trend was further substantiated by the research of Hull, Fields & Sechler (1986). Using a case study approach, industry-based literacy skills programs at nine worksites were classified along two dimensions: participation, that is, individual or group and applicability to the company's needs, either indirectly or directly. While all nine sites had some type of literacy program(s) dating back several years, since 1980 the emphasis had shifted to programs for a group of workers that directly benefited the company.

Conclusions

What, then, does all of this mean for New Brunswick? Much of what is written about the impending scramble for qualified workers originates in areas of relatively low unemployment such as Ontario and the New England States. These are also the areas where company involvement in basic skills training for their workers predominates. What is happening in regions like New Brunswick where the economy is not as strong and high unemployment has been the norm? Do companies recognize a need for basic skills training? Are there any companies currently active in this area? In order to answer these and other related questions further research is needed to determine employer attitudes with respect to literacy training in their workplace.

The research has identified certain elements which are key to the success of a workplace literacy program. Adults learn best what they can directly apply. Therefore, program development ought to be based upon job task analysis. Effective programs will use job-related instructional materials and simulation as a teaching/learning strategy.

Finally, there are certain organizations that offer their expertise in setting up workplace literacy programs. Frontier College actively advertises this service. Laubach Literacy of Canada and the Ontario Ministry of Skills Development also have an expertise in this area.

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